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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/789,212 | 02/27/2004 | Harry Eugene Flynn | KMG1098 | 9130 |

36732 7590 01/05/2006

STANLEY K. HILL
5 Mount Royal Ave.
Mount Royal Office Park
Marlborough, MA 01752



EXAMINER

HOPKINS, ROBERT A

ART UNIT PAPER NUMBER

1724

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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OIPE/IAP

JAN 11 2006

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/789,212 | FLYNN ET AL. | |
| | Examiner | Art Unit | |
| | Robert A. Hopkins | 1724 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 is/are allowed.
- 6) ☒ Claim(s) 5, 6 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6-7-04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites "wherein the discharge underflow comprises a majority portion of liquid and a minority portion of gas". Claim 7 teaches a chlorine/titanium dioxide mixture, therefore claim 10 lacks antecedent basis because claim 7 does not include a liquid in the mixture. Correction is requested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5,6,9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Schwamborn(5188237).

Schwamborn teaches a method for separating gas from a first gas/solid mixture comprising introducing the first gas/solid mixture(from inlet 4) into a cyclone(1), separating the first mixture into a gas overflow(19) and a discharge underflow(7), introducing a purge gas stream(from gas supply system 33) to the discharge underflow to create a second mixture comprising purge gas and gas displaced from the discharge underflow, and merging the second mixture with the gas overflow. Schwamborn further

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teaches wherein the discharge underflow comprises a majority portion of solids and a minority portion of gas.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwamborn(5188237).

Schwamborn teaches all of the limitations of claim 11 but is silent as to wherein the purge gas is nitrogen or carbon dioxide. Examiner respectfully submits that nitrogen and carbon dioxide are well known gases for use in purge gas systems, therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a purge gas is nitrogen or carbon dioxide to the gas supply system 33 to effectively create a second mixture and merge the second mixture with the gas overflow.

Allowable Subject Matter

Claims 7,8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7 recites "wherein the gas is chlorine and the solid is titanium dioxide". Schwamborn teaches separating a powder from a feed gas. It would not have been

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obvious to someone of ordinary skill in the art at the time of the invention to provide a gas which is chlorine and the solid which is titanium dioxide because Schwamborn does not suggest such a modification.

Claim 8 recites "wherein the first mixture is a gas/liquid mixture". Schwamborn teaches separating a powder from a feed gas. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a first mixture which is a gas/liquid mixture because Schwamborn does not suggest such a modification.

Claims 1-4 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 recites "a containment vessel in communication with the gas outlet and in communication with the discharge outlet, and a purge gas stream in communication with the discharge outlet and in communication with the containment vessel".

Schwamborn teaches a single cyclone having a gas outlet and a discharge outlet and a purge gas stream in communication with the discharge outlet, but does not teach a containment vessel in communication with the gas outlet and in communication with the discharge outlet, and a purge gas stream in communication with the discharge outlet and in communication with the containment vessel. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a containment vessel in communication with the gas outlet and in communication with the discharge outlet, and a purge gas stream in communication with the discharge outlet and in

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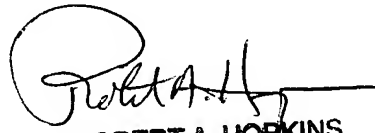
communication with the containment vessel because Schwamborn does not suggest such a modification. Claims 2-4 depend on claim 1 and hence are also allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday, 7am-4pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rah
January 3, 2006


ROBERT A. HOPKINS
PRIMARY EXAMINER

Au1724

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)



Sheet 1 of 1

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/08A (10-01)
Approved for use through 10/31/2002. OMB 0314-0031
US Patent & Trademark Office: U.S. DEPARTMENT OF COMMERCE

Complete if Known

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|-----------------------------|-------------------|
| Application Number | 10/789,212 |
| Filing Date | February 27, 2004 |
| First Named Inventor | Flynn, Harry |
| Group Art Unit | 1724 |
| Examiner Name | Unknown Hopkin |
| Attorney Docket No: KMG1098 | |

US PATENT DOCUMENTS

| Examiner Initial * | USP Document Number | Publication Date | Name of Patentee or Applicant of cited Document | Class | Subclass | Filing Date If Appropriate |
|--------------------|---------------------|------------------|---|-------|----------|----------------------------|
| KAH | US-1,856,685 | 05/03/1932 | Anderson | | | 05/19/1928 |
| | US-2003/0150330 | 08/14/2003 | Hotta, et al. | | | 02/06/2003 |
| | US-2,788,087 | 04/09/1957 | Lenehan | | | 04/07/1955 |
| | US-3,816,383 | 06/11/1974 | Stolko | 260 | | 05/01/1972 |
| KAH | US-6,399,033 | 06/04/2002 | Hartmann, Achim | 423 | 74 | 11/03/1995 |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Foreign Document No | Publication Date | Name of Patentee or Applicant of cited Document | Class | Subclass | T ² |
|--------------------|---------------------|------------------|---|-------|----------|----------------|
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OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|--------------------|----------------------|---|----------------|
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EXAMINER

[Signature]

DATE CONSIDERED

1/3/06

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional) 1 Applicant is to place a check mark here if English language Translation is attached

| | | | |
|-----------------------------------|---------------------------------------|--|-------------|
| Notice of References Cited | Application/Control No. 10/789,212 | Applicant(s)/Patent Under Reexamination FLYNN ET AL. | |
| | Examiner Robert A. Hopkins | Art Unit 1724 | Page 1 of 1 |

U.S. PATENT DOCUMENTS

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Name | Classification |
|---|---|--|-----------------|-------------------|----------------|
| * | A | US-5,188,237 | 02-1993 | Schwamborn, K. H. | 209/23 |
| | B | US- | | | |
| | C | US- | | | |
| | D | US- | | | |
| | E | US- | | | |
| | F | US- | | | |
| | G | US- | | | |
| | H | US- | | | |
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| | L | US- | | | |
| | M | US- | | | |

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NON-PATENT DOCUMENTS

| * | | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|---|
| | U | |
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| | W | |
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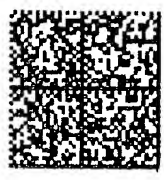
*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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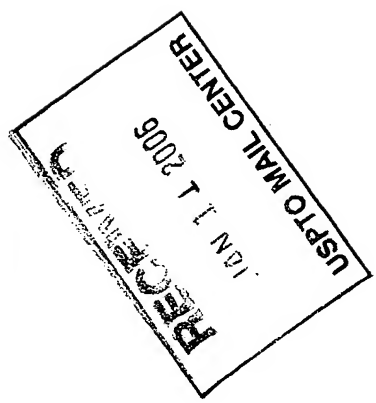
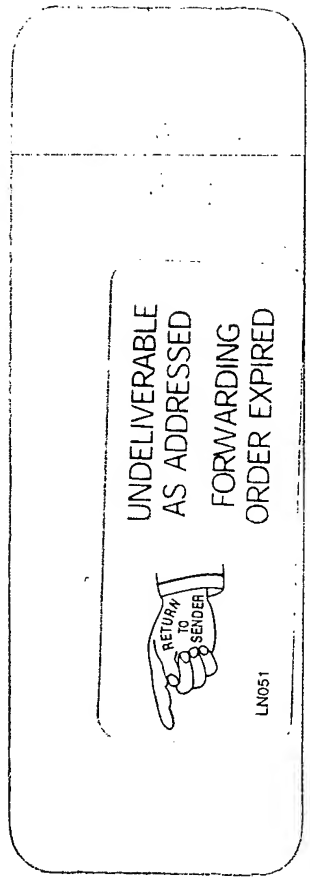
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